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USMX GOLDSTRIKE MINE
DRAFT PERMANENT CLOSURE PLAN
APRIL 1998

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Prepared for:

USMX Goldstrike Mine

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TABLE OF CONTENTS

LIST OF TABLES

USMX GOLDSTRIKE MINE
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1.0 INTRODUCTION

The USMX Goldstrike Mine (Goldstrike) is located 35 miles northwest of St. George, in Washington County, Utah. The mine is operated under a Notice of Intent approved by the Utah Division of Oil, Gas and Mining (DOGM), a Plan of Operations approved by the Bureau of Land Management (BLM), Construction and Ground water Discharge permits approved by the Utah Division of Water Quality (DWQ), and various other State and County permits.

Initial construction and mine development work by Tenneco Minerals began in August of 1988 and has gone through several stages of growth and permitting. Two related activities occurred at Goldstrike: mining of ore and the processing of ore to recover precious metals. USMX, Inc. bought the operation in November of 1992 and is the parent company of the current operator, USMX of Utah, Inc. Mining of ore at Goldstrike ended in October of 1994. Since this time, operations at the mine have consisted of metals recovery from the leach pads and reclamation of the mine pits and roads. The reclamation and closure of facilities at Goldstrike, such as mine pits and associated haul roads, is currently being completed as outlined in approved permits.

Metals recovery from the leach pads is complete at this time, and decommissioning and closure are in progress. This plan addresses the procedures for closure of the USMX Goldstrike Mine mineral processing facilities, and has been written to comply with the requirements for protection of waters of the State under statute, and administered by the Utah DWQ. The ultimate goal of this plan is to meet all closure requirements, and to comply with all current State and Federal agency permit requirements.

1.1 FACILITIES DESCRIPTION

The process facilities at Goldstrike consist of the following:

<u>Carbon Recovery Plant</u>
This plant consists of a building in which were housed several small individual process components. There were 5 open top carbon tanks, in series. Each tank contained activated carbon to adsorb precious metals from the leach solution. An electrowinning circuit was used to remove the metals from the carbon and produced a sludge which was smelted in a crucible furnace to produce metal bars. An acid wash system was used to remove undesirable metals which became bonded with the carbon. A carbon regenerating kiln was used to cleanse the carbon of unwanted organic compounds or oils which impaired metals recovery. A cyanide mixing vessel

from which cyanide was added to the process, was outside the building. Also in this area there was a blast furnace and two diesel power generators.

Ponds

There are six High Density Polyethylene (HDPE) lined ponds constructed at the site, all of which are underlined with compacted low permeability clay layer below the HDPE liner. Four ponds, the Pregnant Solution (preg), Barren Solution (barren), Recycle and Rinse Water are double lined with HDPE with a leak detection/collection system between the layers. The remaining two ponds, the Hamburg Pond and Fresh Water Pond, have a single HDPE liner with a leak detection/collection system below the HDPE liner.

Two earthen ponds which were constructed in the back-filled East Hamburg pit were not a part of the process facilities. These ponds were used as part of the water management facilities at the site. The two earthen ponds have a combined capacity of 7,300,000 gallons.

Leach Pads

There are two leach pads at Goldstrike. Each pad was constructed with 12 inches of low permeability clay base. Above this is 6 inches of gravel which is divided into leak detection cells that drain to pipes which lead to leak detection ports in the collection ditches. Above the gravel is an additional 12-inch layer of low permeability clay which is covered by the HDPE liner. A two foot minimum depth of crushed drain rock base was placed on the pad prior to ore loading. The leach pads were constructed in a sloped manner so that the solution travels through the drain rock to the lower margins of the pads. Lined collection ditches were constructed along the low side of the pads through which solutions are directed to drop collection sumps. Water from the sumps flow through a pipeline to the pregnant solution pond.

Leach Pad 1 had a surface area of 14.7 acres during operations and was loaded to a depth of approximately 100 feet with ore. Pad 2 covered 35.8 acres and was loaded with ore to a depth of approximately 200 feet. Leach pads 1 and 2 had a volume of 1,921,500 and 5,989,822 tons of ore respectively.

Piping System

Solution was applied to the leach pads via pumping from the barren pond through a double containment pipeline to the leach pads. Percolated solution was collected in a sump. From this point the solution flowed by gravity to the preg pond. The solution was then pumped through the carbon column and returned to the barren pond. In addition to this primary circuit there are piping systems which have the capacity to deliver water to other ponds as needed, and to bring fresh water into the mine site.

2.0 CLOSURE PLAN

This closure plan addresses the following:

- Rinsing and neutralization of leach pads
- Draindown water disposal
- Regrading and reclamation of the leach pad surfaces
- Removal of the physical facilities
- Long term monitoring and final release

2.1 RINSING AND NEUTRALIZATION OF THE LEACH PADS

Rinsing of the leach pads began with the cessation of cyanide addition. A summary of rinsing activities conducted to date is as follows:

2.1.1 Leach Pad 1

A fresh water rinse of Pad 1 was initiated in early 1993, but was interrupted in the spring of 1995 due to above normal precipitation. This resulted in a need to use the pad as a storage area on which to apply excess solutions. The solution applied was dilute due to the rainfall and the natural depletion of cyanide. USMX had stopped adding cyanide to the process circuit in November of 1994 as a precautionary measure because of high spring precipitation experienced in prior years.

Natural cyanide neutralization was quite rapid. Calcium hypochlorite was used for a short period and appeared to retard the natural degradation of cyanide. It was hypothesized that this was due to chlorine impairment of naturally occurring cyanide reducing bacteria.

A 20 - 40 ppm ferric sulfate solution was applied in attempt to complex the free arsenic. However, on site testing for arsenic has shown this treatment to be ineffective.

A total of 93.3 million gallons of rinse water has been applied to Pad 1. Of this total, 18.7 million gallons were fresh water. This equates to 48 gallons of rinse water per ton of ore on the pad.

At present, nitrate (by a factor of 19) and arsenic (by a factor of 3) exceed Utah ground water quality standards. USMX believes that Pad 1 is rinsed to the full extent practicable, and is proposing the installation of a shallow drainfield atop the Hamburg Pit backfill to dispose the water from continued drain-down. Results indicate that attenuation will further reduce the level of contaminants in the draindown water.

2.1.2 Leach Pad 2

USMX began rinsing Pad 2 in November, 1994. Rinsing was initiated on the upper portions of the pad and has proceeded toward the low end of the pad. As of January 1, 1998 a total of 396 million gallons of rinse water has been applied to Pad 2. Of this total, 85 million gallons were fresh water. This equates to 50 gallons of water per ton of ore on the pad.

Testing of solutions from the outflow from Pad 2 was initiated in November, 1994. Results to date indicate that the levels of cyanide, metals, and other dissolved constituents are very similar to those found in Pad 1 solution (Tables 3.3 and 3.4). Rinsing of Pad 2 has been very effective in reducing the contaminant levels of the solution. This is partially due to the reduced cyanide levels used by USMX on Pad 2 as early as September, 1994.

A decision was made in October, 1994, to a reduce cyanide concentration to accelerate the decommissioning goals and still allow for the recovery of the remaining precious metals. The concentration of cyanide fell off rapidly due to natural degradation and also due to dilution from rainfall received in the spring of 1995. During the summer of 1995 cyanide was added for a short duration to evaluate additional recovery potential. Cyanide addition proved ineffective in increasing metals recovery and was discontinued.

A summary of the free cyanide concentrations and pH in the outflow from Pad 2 is given in Table 2.1. The cyanide concentrations were analyzed via a HACH Test Kit conducted at the USMX lab.

Table 2.1: PAD #2 FREE CYANIDE

DATE	FREE CYANIDE, MG/L	pH, STANDARD UNITS
08/29/94	15	10.2
09/09/94	10	10.3
10/10/94	7	10.3
10/24/94	12	10.3
11/07/94	13	10.3
11/25/94	2.8	10
12/05/94	2	10.1
12/19/94	1.6	10.1
01/05/95	0.9	10
01/21/95	0.4	10
02/11/95	0.15	10
03/07/95	0.2	9.6
04/21/95	0.1	9.3
05/16/95	0.2	9.4
06/22/95	10	9.4

DATE	FREE CYANIDE, MG/L	pH, STANDARD UNITS
07/11/95	25	10
08/22/95	12	10
09/29/95	0.2	8.5
10/09/95	0.2	8.5
11/14/95	0.03	7.8
12/12/95	0.09	8.5
01/07/96	0.03	8.3

3.0 DRAINDOWN DISPOSAL

USMX proposes to dispose drain down water via a shallow drainfield within the Hamburg Pit backfill area. The waste rock in the backfill will act as a drainfield for the water, with the soil and waste rock attenuating the substances found in it. The existing water detention ponds located in the Hamburg Pit backfill would be backfilled (after first removing the synthetic liner) using material originally excavated to create the ponds. This would be the first step in development of the drainfield. The lined process ponds adjacent to the plant would be maintained in service during construction and initial operations of the drainfield to provide necessary surge capacity.

The final design of the drainfield is not yet determined. USMX proposes that the basis-of-design will be to introduce water to the drainfield area at one half the percolation rate of the top three feet of the backfill, use of a shallow drainfield within the root zone of perennial plants, and sufficient area to meet attenuation requirements.

3.1 MODELING AND ANALYSES OF DRAINDOWN

JBR Environmental Consultants, Inc. (JBR), used the U.S. E.P.A. Hydrologic Evaluation of Landfill Performance (HELP) Model version 3.01 (1994) to simulate the hydrologic performance of the closed Heap Leach Pads at USMX Goldstrike Mine (the results of this modeling are presented in a report dated December 22, 1997: REVISED HEAP PAD INFILTRATION SIMULATION).

The HELP model is a quasi-two-dimensional hydrologic model for conducting water balance analysis of landfills, cover systems, and other solid waste containment facilities. The model accepts weather, soil and design data, and uses solution techniques that account for the effects of surface storage, snowmelt, runoff, infiltration, evapotranspiration, vegetative growth, soil moisture storage, and unsaturated vertical drainage. The model facilitates estimation of the amounts of runoff, evaporation and leachate collection that may be expected to result from the operation of a wide variety of landfill designs. The hydrologic processes in closed Heap Leach Pads are the same as found in landfills, therefore the HELP model is appropriate for Heap Leach Pad performance simulation.

Weather data is input into the HELP model through four files: evapotranspiration, precipitation, temperature, and solar radiation. Evapotranspiration data includes site location (city, state and latitude), evaporative zone depth, index of vegetative leaf area, dates of the start and end of the growing season, average wind speed, and quarterly average humidity. Daily values for precipitation, temperature and solar radiation are input through their respective files.

For weather files, the model user has two choices: entering site-specific information, or accepting model defaults. If model defaults are selected, the model uses a stochastic process to build synthetic weather data. The synthetic data is seeded by historical data from a location chosen by the user, or to monthly average values specified by the user.

After calibration, the model was run under two scenarios for each of the two pads. Both scenarios had a duration of 10 years. The first scenario used stochastically generated weather data based on monthly average data from the USMX Goldstrike site. This simulation was run to predict average flows under normal weather routines. In the second scenario, the first year of precipitation data, in the simulation, was the actual precipitation from 1993, the wettest year in the period of record. The precipitation for the remaining nine years was identical to the normal precipitation scenario. This simulation was run to predict the maximum daily drainage flow. For Pad #1, initial layer moisture data was set to those remaining at the end of calibration. For Pad #2, it was assumed that the initial moisture values should be the same as Pad #1 in 1996, at the beginning of the calibration period. Results for Pad #1 are provided in Table 3.1, Pad #2 in Table 3.2.

The predictive model also reflects a change in the physical lay-out of Pad #1. The calibration was performed without allowing any run-off of precipitation from the pad because the current configuration of Pad #1 does not allow run-off. USMX expects to correct this in the near future. The predictive models assume that 75% of the areal extent of the two Pads will be able to shed run-off.

TABLE 3.1: PAD #1 PREDICTED DRAINAGE FLOWS

YEAR	NORMAL YEAR SIMULATION		WET YEAR SIMULATION	
	AVERAGE FLOW, GPM	PEAK FLOW, GPM	AVERAGE FLOW, GPM	PEAK FLOW, GPM
1	2.45	4.76	4.01	6.73
2	1.93	3.19	2.72	4.31
3	2.11	3.57	2.63	4.38
4	1.66	2.2	1.89	4.42
5	1.62	2.32	1.76	2.66
6	1.63	2.51	1.72	2.61
7	1.53	2.32	1.59	2.43
8	1.35	2.56	1.39	2.49
9	1.16	2.42	1.18	2.61
10	1.24	2.53	1.26	2.55

TABLE 3.2: PAD #2 PREDICTED DRAINAGE FLOWS

YEAR	NORMAL YEAR SIMULATION		WET YEAR SIMULATION	
	AVERAGE FLOW, GPM	PEAK FLOW, GPM	AVERAGE FLOW, GPM	PEAK FLOW, GPM
1	4.65	9.41	6.91	10.85
2	4.50	7.53	6.29	9.49
3	4.91	9.10	6.49	10.46
4	4.27	5.36	5.05	6.97
5	4.11	6.50	4.72	7.84
6	3.98	7.07	4.45	7.59
7	3.87	5.96	4.23	6.59
8	3.66	5.90	3.89	6.10

PAD #2

YEAR	NORMAL YEAR SIMULATION		WET YEAR SIMULATION	
	AVERAGE FLOW, GPM	PEAK FLOW, GPM	AVERAGE FLOW, GPM	PEAK FLOW, GPM
9	3.12	7.34	3.30	7.36
10	3.26	6.22	3.39	6.49

3.2 QUALITY AND QUANTITY OF DRAINDOWN

A snapshot of early water quality of Pad 1 and Pad 2 is given below in Table 3.3. Antimony and thallium data are not available for the early draindown water quality. The constituents that are above the Utah ground water quality standards are nitrate, nitrite, arsenic, selenium, free cyanide, lead and mercury. These are highlighted in bold.

TABLE 3.3: EARLY WATER QUALITY OF PAD 1 AND PAD 2 DRAINDOWN

Parameter	Results in mg/L		Utah Water Quality Standards in mg/L
	Pad 1, 10/6/94	Pad 2, 11/14/95	
Free Cyanide	**0.261**	0.13	**0.2**
Fluoride	0.44	0.5	4.0
Nitrate (N)	**118**	**219**	**10**
Nitrite (N)	0.086 (10/20/94)	**2.82**	**1.0**
Arsenic	**0.248**	**0.20**	**0.05**
Barium	0.044	<0.01	2.0
Cadmium	<0.005	<0.03	0.005
Copper	<0.01	<0.05	1.3
Lead	<0.015	**0.05**	**0.015**
Mercury	0.0019	**0.0086**	**0.002**
Selenium	**0.101**	<0.02	**0.05**
Silver	<0.01	<0.03	0.1
Zinc	0.06	0.1	5

Since rinsing began, the quality of the draindown water from the two pads has increased (decrease in contaminant concentration). Table 3.4 shows the current water quality of the draindown of Pads 1 and 2. Free cyanide, nitrite, lead, selenium, and mercury concentrations have fallen below Utah ground water quality standards. Nitrate and arsenic concentrations remain above Utah ground water quality standards, but have fallen from their original values.

Nitrate is being generated by the conversion of cyanide. It is anticipated that once most of the cyanide is converted, nitrate concentration will show a continuous decline as fresh water from precipitation infiltrates and reports as draindown water.

TABLE 3.4: CURRENT WATER QUALITY OF PAD 1 AND PAD 2 DRAINDOWN

Parameter	**Results in mg/L**		**Utah Water Quality Standards in mg/L**
	Pad 1, 4/4/98	**Pad 2, 3/4/98**	
pH	6.7	8.1	6.5-8.5
Free Cyanide	0.02	0.02	0.2
Fluoride	1.0	0.5	4.0
Nitrate (N)	**79**	**188**	10
Nitrite (N)	0.017	0.065	1.0
Arsenic	**0.21**	**0.16**	0.05
Barium	0.05	0.049	2.0
Cadmium	<0.005	<0.001	0.005
Copper	0.01	<0.01	1.3
Lead	<0.005	<0.005	0.015
Mercury	0.0002	0.0005	0.002
Selenium	0.023	0.044	0.05
Silver	<0.005	<0.005	0.1
Zinc	0.69	0.02	5
Antimony	0.031	0.030	no standard
Thallium	---	0.006	no standard

It is anticipated that water quality in the immediate future will be approximately that shown in Table 3.4. Nitrate should decrease as the reserve of nitrogen containing substances is depleted. The overall trend for arsenic is also towards lower concentration. As time passes, the water quality is expected change to the quality found in meteoric water mobility studies of ore samples, as shown in Table 3.5.

3.3 METEORIC WATER MOBILITY TESTS

In support of pad regrading plans, meteoric water mobility tests were conducted on samples collected from Pad #2. The sample collection procedure was to use a backhoe to dig a 15 foot deep hole in the pad, and then collect a channel sample from the bottom of the hole to the top. Three separate samples were collected and submitted for analysis. Results are presented in Table 3.5.

TABLE 3.5 METEORIC WATER MOBILITY TEST (MWMT) RESULTS

Parameter	Results		
	#1 Pad 2	#2 Pad 2	#3 Pad 2
pH	7.79	7.33	7.58
Alkalinity, mg/L as $CaCo_3$	36	35	42
Bicarbonate, mg/L	44	43	51
Aluminum, mg/L	0.13	0.078	0.28
Arsenic, mg/L	**0.074**	**0.14**	**0.12**
Barium, mg/L	<0.05	0.053	<0.05
Cadmium, mg/L	<0.0005	<0.0005	<0.0005
Calcium, mg/L	150	53	86
Chloride, mg/L	2.0	5.0	5.0
Chromium, mg/L	<0.025	<0.025	<0.025
Copper, mg/L	<0.025	<0.025	<0.025
Cyanide, WAD, mg/L	<0.01	<0.01	<0.01
Fluoride, mg/L	0.57	0.37	0.60
Iron, mg/L	0.053	<0.05	0.15
Lead, mg/L	<0.005	<0.005	<0.005

Parameter	Results		
	#1 Pad 2	#2 Pad 2	#3 Pad 2
Magnesium, mg/L	4.4	3.1	3.4
Manganese, mg/L	<0.025	<0.025	<0.025
Mercury, mg/L	<0.001	<0.001	<0.001

As drain down of the pads continues, the water quality is expected to approach the meteoric water mobility test water quality. Of the parameters tested, only arsenic exceeds the Utah ground water quality standard of 0.05 mg/L.

3.4 HAMBURG BACKFILL

The Hamburg pit once comprised an area of approximately 25 acres. During mining operations, this pit was backfilled with waste rock from three other pits. Backfill depth varies with location in the former pit, with depth in the central 10 acres ranging from a minimum of 150 feet to over 180 feet.

During the August of 1997, Northern Exploration drilled a test hole near the edge of the Hamburg Pit Backfill. Waste rock depth at this location was 102 feet, and no water was encountered to a depth of 800 feet.

3.5 RESULTS OF ATTENUATION STUDIES

Two attenuation studies were conducted on Hamburg Pit backfill material. The reasons for performing two studies are twofold: First, water quality has improved since the first test was conducted, and second, material from three different locations was used in the backfilling of the Hamburg Pit.

The first of these studies utilized material from the east Hamburg Pit backfill, and draindown water from Pad #1. The second study used material from the west Hamburg Pit backfill, and draindown water composites from both pads.

The report for the first study was issued on January 18, 1996, by McClelland Laboratories, Inc. in Reno, Nevada. In brief, the report concludes that waste rock in the Hamburg Pit backfill attenuates arsenic up to 81.6%, nitrate up to 8.9% and selenium at 1.3% on a mass percentage basis during application of five pore volumes of draindown water..

The report for the second study was issued by JBR on January 6, 1998. The study was also conducted by McClelland Laboratories. The study indicates that concentrations of antimony, arsenic, lead and thallium are lower in the attenuation column effluent versus the influent (some form of attenuation is present). The study shows that nitrate and cyanide species are not attenuated in the column (the first study showed some nitrate attenuation) .

The study also shows conflicting results for selenium. Pore Volume Composite Samples, produced by combining a portion of each day's effluent over an entire pore volume, show some attenuation of selenium. Weekly grab samples, comprising a portion of an individual day's effluent, show no attenuation.

To calculate the effects of attenuation on the quality of drain down water applied to the Hamburg Pit backfill the results of the two studies have been averaged. The results are presented in Table 3.6.

TABLE 3.6: ATTENUATION STUDY RESULTS

PARAMETER	EASTERN AREA ATTENUATION RESULTS (GRAMS ATTENUATED/FT^3 BACK-FILL)	WESTERN AREA ATTENUATION RESULTS (GRAMS ATTENUATED/FT^3 BACK-FILL)	RESULTS USED IN ATTENUATION CALCULATIONS (GRAMS ATTENUATED/FT^3 BACK-FILL)
Nitrate Nitrogen	0.576	-0.005	0.286
Arsenic	0.0101	0.004	0.0071
Antimony	---	0.0006	0.0006
Thallium	---	0.00009	0.00009
Moisture Retention	1.63 gal/ft^3	0.74 gal/ft^3	1.18 gal/ft^3

Moisture retention is the amount of water added to top of the test columns before any water was collected at the bottom.

3.6 PRELIMINARY DETAIL OF DESIGN FOR DRAINDOWN DISPOSAL

A conceptual design of drainfield is included at the end of this report as the drawing titled Draindown Water Disposal Drainfield Concept.

We have estimated the effects of application of the draindown water to 5 acres at the Hamburg Pit backfill. Draindown quantity is as predicted by the HELP model. Draindown water quality was assumed to be the latest water quality analysis. This assumption is very conservative, because the drain down water quality is expected to approach the meteoric mobility tests results (Table 3.5) as time passes. However, because the length of time to reach this quality is unknown, we have made a conservative estimate.

For the pollutants regulated under UAC R317-6-2.1, only nitrate-nitrogen, and arsenic exceed the Utah ground water quality standards in the current draindown water.

The weighted average water quality was calculated for years one through ten by using infiltration simulation results (see Tables 3.1 and 3.2), and analytical results of the draindown water from the two heap leach pads (Table 3.4). Flow rates for years one through ten are from the "wet year" simulation, resulting in a high, and therefore conservative, estimate of flow. Simulated flow rates increased slightly in year ten, so it was assumed that year ten flow rates approximated a long term steady state flow. Therefore, flow rates for years eleven through twenty were assumed to be the same as for year ten.

Calculation of the effects of the land disposal of the water are made assuming no evaporation and no precipitation, and that the back-fill is a uniform material 150 feet thick (actual thickness of the waste rock is a minimum 150 feet). This is again a very conservative estimate since our intent is to apply water in a shallow infiltration zone where plant roots can take up and benefit from some of the applied water.

After 10 years, the amount of water added is less than the moisture retention capacity of the 150 foot column of waste rock, and therefore, no moisture is expected to exit the bottom of the back-fill. Calculations show the volume of waste rock contained in the wetted column has sufficient attenuative capacity to reduce the nitrate nitrogen level to below 10 mg/L, arsenic to below 0.05 mg/L, antimony to below 0.006 mg/L, and thallium to below 0.002 mg/L.

After 20 years, the amount of water added exceeds the moisture retention capacity of the waste rock, but is less than one pore volume of the 150 foot column of waste rock. Calculations show the volume of waste rock contained in the wetted column has sufficient attenuative capacity to reduce the nitrate nitrogen level to below 10 mg/L, arsenic to below 0.05 mg/L, antimony to below 0.006 mg/L, and thallium to below 0.002 mg/L.

4.0 REGRADING AND RECLAMATION OF CLOSED LEACH PADS

USMX submitted a plan for decommissioning and regrading Pad 1 to DWQ in November, 1995. The plan was approved in December, 1995 as permitted by rule. The leach pads were originally constructed and loaded with ore at a slope of 2H:1V. The approved plan involved the placement of a Geosynthetic Clay Liner (GCL) around certain portions of Pad 1 to expand the ore containment area.

The final plan for Pad 2 will be essentially the same concept as that approved for Pad 1, except that the GCL will not be used since the Meteoric Water Mobility Tests showed little potential for contamination in excess of Utah ground water quality standards from leached ore beyond liner margins after regrading the leach pad.

Pad 2 has a haulage road which completely traverses the circumference of the pad. Part of this road will need to be left in place to complete the continuity of roads which existed previous to mining. The portion of the haul road along the south side of Pad 2 also serves as a spillway for the Quail Creek Drainage Dam. The dam was created to facilitate the use of a portion of the draw below it for an extension of Pad 2. During the most extreme weather experienced at the site, the water level in the Quail Creek pond has never been higher than the half-way point of the dam. However, it is advisable to maintain the road as a spillway in the event the pond should overflow.

The extension of the leach pad containment area will be such that, upon reshaping of the pads, all precipitation which enters the surface of the pad and percolates downward through the rinsed ore will flow to the collection system. All drainage from the pads will be collected in perforated pipes which will be installed in the existing collection ditches. During the final regrading of the pads these pipes and ditches will be covered with pad material. Off-flow will be directed through the perforated pipes and existing facilities to the drainfield. The existing sumps of the leach pads will be filled with drain rock, creating a French drain system to collect pad effluent. Following the completion of the French drain system, rinsed ore will be place over the sumps with a grade not to exceed 2.5H:1V, and the slope will be topsoiled and seeded to establish vegetation.

A deviation from the previously approved regrading plan will allow on final closure that the finished topsoiled surface of both leach pads will shed surface waters from storms into established drainages outside the reclaimed leach pads. The result will be minimal inflow to the core of the leach pad. Because the surface of the pads will be covered with a layer of topsoil, this surface flow will have minimal contact with any of the rinsed ore. Evaporation and transpiration from the vegetated surface will also reduce meteoric inflow into the pads. At completion of the regrading and topsoiling of the leached material, all exposed liner material on the outside slope of the containment berms will be either removed or covered with soil. All piping which carries water from the collection sumps to the disposal system will be fusion-welded HDPE and will be buried when possible.

5.0 REMOVAL OF PHYSICAL FACILITIES

The buildings, process equipment, and ancillary facilities are relatively portable. They will be disassembled and removed from the project site as soon as they are no longer required. All surface piping will be removed. Underground pipes and cables will be disconnected below the ground surface and the portion which is underground will be left in place.

The range fence which is around the perimeter of the mine will be left in place as per an agreement reached with the BLM and range permit holders. The chain link fence which is around the process facilities will be removed and the posts pulled out of the ground. The HDPE liners which are in the ponds will either be salvaged and taken from the mine site or folded over in place in the pond bottoms and buried. After the removal of the buildings the concrete foundations will be pushed into the bottom of the pond and buried.

6.0 LONG TERM MONITORING AND FINAL RELEASE

Quarterly sampling of the draindown water would continue, until a series of four consecutive quarterly samples achieve acceptable results. At this time USMX proposes that the system be accepted as fully functional and USMX be released from further obligation. Should the results of a quarterly sample not fall within the guidelines agreed upon, the division would be notified in a timely manner and new samples would be collected and tested. If the re-test sample is acceptable the original sample for that quarter would be rejected in favor of the re-test.

Following the final grading of the leach pads, ground water monitoring would be limited to monitor wells MW2, 4, 4A and 7. These wells will be sampled semi-annually through year three and annually for the remainder of the water quality monitoring period.

USMX proposes that monitoring of operating condition of the disposal system be conducted during site visits for reclamation monitoring. The Utah Division of Oil, Gas, and Mining has approved the reclamation monitoring plan with site visits at least monthly during the first year, bimonthly thereafter until the reclamation is released.

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